

An Evaluation of a Community-Based Psycho-Educational Program for Users of Child Sexual Exploitation Material

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Abstract

Online sexual offenders represent an increasingly large proportion of all sexual offenders. Many of these offenders receive non-custodial sentences and there is a growing need for community based interventions. The aim of this study was to evaluate a psycho-educational program for community dwelling users of child sexual exploitation material (CSEM). A total of 92 adult male participants completed self-report measures at pre and post. A subset of participants also completed measures after a follow-up period. Results suggested benefits across depression, anxiety, and stress, social competency, including locus of control and self-esteem, and distorted attitudes. Furthermore, these effects remained eight to 12 weeks following program completion. Our results suggest that CSEM users are amenable to treatment in the community, and that there are beneficial outcomes in affective and interpersonal functioning following psycho-education. These factors represent treatment targets for sexual offenders, and are recognized risk factors for contact sexual offense recidivism.

***Key words:* Internet, online sex offenders, indecent images of children, treatment outcome, psycho-education**

An evaluation of a community based psycho-educational program for users of child sexual exploitation material

Increasing ease of access to the Internet has seen an upward spiral in the number of detected online sexual offenses (Beech, Elliott, Birgden, & Findlater, 2008; Kloess, Beech, & Harkins, 2014; Taylor & Quayle, 2003). This trend is emphasized in recent figures from the UK Home Office that show an increase in the number of recorded crimes in England and Wales for obscene publications of children, as well as an increase in offenses charged for both making and possessing an indecent photograph of a child, for the period from 2006/07 to 2012/13 (Home Office, 2013). As outlined by Seto (2013), imposing custodial sentences on all convicted online offenders means that these offenders pose a disproportionately high demand on sex offender resources, despite the majority having no prior criminal record.

There is now a growing appreciation that while moderate to high risk offenders may be handed custodial sentences, the majority of low risk offenders will be managed in the community (Beech et al., 2008). Although the 'Risk' principle of the Risk, Need, Responsivity Model of sex offender treatment suggests that interventions should be targeted at higher risk offenders (Andrews, Bonta, & Hoge, 1990), interventions for users of child sexual exploitation material (CSEM) may nonetheless be mandated by the courts or by correctional services. Users of CSEM may also voluntarily seek support and education in desisting from their online behaviors. At present there is limited available evidence to show support for the benefits of existing programs for the treatment of online sexual offenders. While some online offenders may take part in online specific treatment programs, including the Internet Sex Offenders Treatment Program (i-SOTP; Middleton, Mandeville-Norden, & Hayes, 2009), the majority of available treatment programs are designed, primarily, for contact sexual offenders. The aim of this study was to evaluate a

psycho-educational, group-work program for community based adult male users of online CSEM. In particular, we aimed to see if the program can effectively target difficulties in affective and interpersonal functioning that have been suggested to play a role in the offense process for users of CSEM.

Numerous studies have documented the importance of distinguishing between the offense and offender characteristics of online only, contact, and mixed online/contact sexual offenders. In a meta-analysis of contact sexual offending by men with online sexual offenses it was found that while 3.4% of online offenders committed a new online offense, 2.0% committed a new contact sexual offense (Seto, Hanson, & Babchishin, 2011). Online only and contact sexual offenders are also distinguishable on the basis of offender characteristics (Elliott, Beech, & Mandeville-Norden, 2013). Both mixed offenders and online-only offenders show greater sexual deviancy compared with contact offenders (Babchishin, Hanson, & Van Zuylen, 2015), and having a history of online sexual offending may be a valid diagnostic indicator of pedophilia (Seto, Cantor, & Blanchard, 2006). However, Babchishin et al. (2015) noted that although online-only offenders show motivation for sexual offending against children (e.g., high sexual deviancy), they were less likely than contact offenders to have access to children, showed less evidence of antisociality, and had greater psychological barriers to offending (e.g., greater victim empathy, fewer cognitive distortions). Thus, these findings are theoretically consistent with the Motivation-Facilitation model of Seto (2013), and indicate the presence of a distinct subgroup of online-only sexual offenders who pose a relatively low risk for contact sexual offending.

The finding of differences between online-only and contact sexual offenders represents an important step toward identifying meaningful treatment targets for avoiding progression to contact sexual offending. It is highlighted by Mann, Hanson, and Thornton (2010) that both risk

assessment and treatment should be driven by psychologically meaningful risk factors that are associated with sexual offense recidivism. Risk factors for sexual reoffending described by Thornton (2002) and Webster et al. (2006) refer to socio-affective functioning, self-management, sexual interests, and distorted attitudes. These factors are consistent with the findings of a meta-analysis that identified interpersonal and affective difficulties, and problems with self-management and emotion regulation, as meaningful risk factors for sexual reoffending (Hanson & Morton-Bourgon, 2005). Considered alongside the differences identified by Babchishin et al. (2015), it may therefore be suggested that treatment targets for online offenders should include reducing antisociality, improving self-management, and increasing psychological barriers to offending.

Online offenders show problems in socio-affective functioning, and the Internet may serve as a means for emotion regulation (Morahan-Martin & Schumacher, 2000), and facilitating social relationships (Taylor, Holland, & Quayle, 2001). Online offenders also show greater problems in sexual self-regulation, have higher levels of underassertiveness, and lower levels of self-esteem, compared with contact offenders (Babchishin et al., 2015). Furthermore, although Babchishin et al. (2015) showed that anxiety and depression did not differentiate online-only from contact sexual offenders, affective difficulties including low mood are positively correlated with time spent using the Internet to access CSEM (Laulik, Allam, & Sheridan, 2007). Thus, interventions for online offenders may target affective and interpersonal difficulties, including depression, emotion regulation, loneliness, and self-esteem deficits.

The extent to which distorted attitudes represents an area of criminogenic need among online-only offenders remains relatively unclear (Howitt & Sheldon, 2007; Merdian, Curtis, Thakker, Wilson, & Boer, 2014). Although online offenders show less evidence of offense

supportive attitudes compared with offline offenders (Babchishin et al., 2015), these scores may reflect the use of measures designed primarily for use with contact sexual offenders (O'Brien & Webster, 2007). Instead, the cognitive distortions of online offenders may be more closely related to the use of the Internet and the collecting of images (Quayle & Taylor, 2002). In an attempt to overcome such problems, O'Brien and Webster (2007) developed the Internet Behaviours and Attitudes Questionnaire (IBAQ) and found evidence for online specific offense supportive attitudes in a sample of convicted Internet offenders. These authors also noted that the endorsement of attitudinal items was significantly correlated with certain offending behaviors (O'Brien & Webster, 2007). These findings suggest that the IBAQ may therefore provide a means of assessing online specific offense supportive attitudes, as well as a means of assessing attitudinal change through the course of sex offender treatment.

In one of the few studies to evaluate an online sex offender treatment program, Middleton et al. (2009) examined data from 264 convicted online offenders who attended the UK based i-SOTP. Although recidivism data are yet to be reported, significant change in the desired direction was observed on measures of interpersonal and affective functioning, and offense supportive attitudes. An evaluation has also been conducted on a community based program for help-seeking pedophiles and hebephiles in Germany (Beier, Grundmann, Kuhle, Scherner, Konrad, & Amelung, 2015). Significant change was found across online and offline offenders on a number of measures of offense supportive cognitions, emotional deficits, and sexual self-regulation. However, a negative change was noted for self-esteem, while a subgroup of participants who had committed online-only offenses ($n = 16$) were found to be relatively resistant to change across all measures. This finding is perhaps reflected in the fact that 29 of the 32 treated individuals who reported lifetime use of CSEM reported ongoing use of CSEM under

therapy. One interpretation of these findings is that psychological changes may precede behavioral changes. Taken together, this evidence shows mixed support for the treatability of online offenders in the community.

The allocation of Internet offenders to treatment programs in the community may depend on the risk level posed by the individual offender, either for committing future online offenses, or for committing future contact offenses. However, risk assessments with online offenders are hampered by the fact that traditional risk measures do not take Internet specific variables into account. The use of existing measures suggests that the majority of online-only offenders pose a low risk for committing any new offense, or a new sexual offense in particular (Wakeling, Howard, & Barnett, 2011). This may mean that such individuals do not receive treatment and that their motivations for sexually offending online will go largely unattended. Despite low risk for contact offending among online offenders, it may be mandated by courts or by correctional services that offenders living in the community attend online specific interventions. There is a growing need therefore to develop community based programs that aim to support online offenders, equipping them with the knowledge and tools required to desist from using CSEM.

In the present study, we aimed to evaluate the effectiveness of a community based psycho-educational program, the 'Inform Plus' program, offered to users of CSEM. In particular, we aimed to see if this program can effectively target difficulties in affective and interpersonal functioning that have been suggested to play a role in the offense process for users of CSEM. Despite having admitted to using CSEM, only a minority of men attending this program have an existing conviction related to the viewing, or producing, of indecent images of children. Thus, we refer to the participants as users of CSEM. Furthermore, although the evaluation involved both a qualitative and a quantitative arm, in this study we only report the results of statistical

analyses for scores on validated measures completed pre and post program. Measures used included those that tap clinical constructs such as anxiety and depression, as well as measures of socio-affective and interpersonal functioning as per findings from Hanson and Morton-Bourgon (2005) and Babchishin et al. (2015). Targeting these areas may therefore help to reduce the risk that a participant will continue to use CSEM, or that they will commit a contact sexual offense. We also asked participants to complete measures at a follow-up time point so as to investigate the extent to which change was stable following program completion. It was hypothesized that participants would show significant change in the desired direction between pre and post program, and that this change would be stable for a subgroup of men assessed after a follow-up period.

Method

The ‘Inform Plus’ program

The Inform Plus program is a psycho-educational, group work program, developed and run by the Lucy Faithfull Foundation (LFF), a UK based charitable organization. Individuals volunteer to take part and typically self-refer via the ‘Stop it Now!’ helpline for the UK and Ireland. A further small minority of men are referred by probation and children’s services. Individuals taking part are typically under investigation by the police although some have been cautioned by the police, or convicted for online sexual offenses. The program is delivered in conjunction with the Inform program, a five-session, psycho-educational group work program for family members and friends of an Internet offender. Participation in the Inform Plus program is not dependent upon a ‘concerned other’ participating in the Inform program.

The structure of the Inform Plus program involves a pre-group, individual ‘face-to-face’ meeting, followed by ten two-and-a-half hour group work sessions. Each group typically consists of two facilitators, and approximately eight group members, all male. Personal work is set between sessions, and participants are invited to attend a post program, follow-up review group meeting. The program is also available on an individual, one-to-one basis. The content of the ten group work sessions covers: offense analysis; the role of sexual fantasy in sexual offending; addictions and compulsions; disclosure, social skills, and relationships; criminal justice information; victim empathy; and lifestyle change and looking to the future.

In sessions one and two, participants reflect upon their own offense cycle, including the extent to which they felt in control of their offending behaviour. In session three, information is shared with participants regarding appropriate versus inappropriate sexual fantasies, and session four reflects on the issues of addiction and compulsivity. Session five includes a disclosure role-play exercise, and in session six participants are asked to consider their personal strengths and weaknesses in terms of their functioning within relationships. In session seven participants are asked to read out letters, which they have written in the first person, having assumed the ‘voice’ of a victim of CSEM. Discussions later in the session explore the nature of empathy, its value, and its obstacles (e.g., what might prevent a person from responding empathically). In session eight a former group member is often invited to return to the group to answer questions based on their own experience. In session nine, strategies for using the Internet responsibly in the future are discussed, with the theme of relapse prevention continued in session ten with an explanation of the ‘*Good Lives*’ model (Ward, 2002).

Although the aim of the Inform Plus program is to aid offenders in desisting from sexual offending, the program differs from traditional cognitive behavioral programs in some key ways.

Most men attending Inform Plus are still being investigated by the police and therefore the full extent of their offending is often unknown. Attendance is also voluntary and most participants make a financial contribution to their places on the program. As such, participants attending the program likely represent a group of CSEM users who are particularly motivated to change. Finally, the program follows a psycho-educational, group work approach, and therefore differs in its approach from programs offered by the National Offender Management Service, UK, in prisons and through probation (e.g., i-SOTP; Middleton et al., 2009).

Participants

The Inform Plus program is run from four regions in the UK. For logistical reasons and given available resources, data collection for the current evaluation was restricted to two regions, and is comprised of participants from 11 groups over a 12 month period. Only participants who attended the group based programs, not those who attended one-to-one sessions, were included in the evaluation. The final sample was made up of 92 adult male users of CSEM, who ranged in age from 25 to 70 years. Sample demographics are available in Table 1. A majority of participants who attend the Inform Plus program are under investigation by the police and are yet to have received a conviction. There were no drop outs. Ethics approval for this study was granted by the University of Birmingham Committee for Ethical Review.

Measures

Depression, Anxiety, Stress Scales 21 (DASS-21; Lovibond & Lovibond, 1995). The 21-item short form version of the Depression, Anxiety, Stress Scales consists of a subset of items from the full length, 42-item version of Lovibond and Lovibond (1995). The DASS-21 consists of three, seven-item subscales that measure symptom severity for depression, anxiety, and stress.

Depression is defined as feelings of gloominess and pessimism, and an inability to experience joy or satisfaction. Anxiety refers to feelings of apprehension and panic, and physiological symptoms including dryness of the mouth and sweaty palms. Stress refers to feelings of tension, irritability, and nervousness. Good internal reliability and test-retest reliability have been reported for the three subscales, as well as the 21-item total score, in clinical samples, and a community sample (Anthony, Bieling, Cox, Enns, & Swinson, 1998). Across clinical and community samples, Anthony et al. (1998) report Cronbach's alphas for the DASS-21 as .94 for depression, .87 for Anxiety, and .91 for Stress. Higher scores indicate greater symptomatology. The desired direction of change following program completion would see a reduction in scores across the three subscales. In a group of 49 non-clinical volunteers, mean scores on the depression, anxiety, and stress scales were reported as 2.12 ($SD = 3.64$), 1.22 ($SD = 1.77$), and 3.51 ($SD = 3.78$), respectively, (Anthony et al., 1998).

Table 1

Sample characteristics for 92 adult male online sexual offenders completing the Inform Plus program.

	<i>M (SD)</i>	Missing data (<i>n</i>)
Age	46.5 (11.5)	1
Age at start of current offending	41.4 (13.3)	3
	Frequency <i>n (%)</i>	Missing data (<i>n</i>)
Current offence type/s		5
Possession of indecent images	40 (34.8)	
Downloading indecent images	34 (29.6)	
Making Indecent images	14 (12.2)	
Distributing indecent images	22 (19.1)	
Obscene publications	1 (0.9)	

Inciting a child to engage in sexual activity	1 (0.9)	
Arranging to meet a child	1 (0.9)	
Inappropriate communication with a minor	1 (0.9)	
Possession of prohibited weapons	1 (0.9)	
Number of previous convictions		1
0	82 (90.1)	
1	6 (6.6)	
2	3 (3.3)	
Number of previous cautions		1
0	85 (93.4)	
1	4 (4.4)	
2	2 (2.2)	
Offence history (by type)		1
Possession of a controlled substance	2 (2.2)	
Indecent images	6 (6.6)	
Criminal damage	2 (2.2)	
Murder	1 (1.1)	
Drink Driving	1 (1.1)	
Sex in a public place	1 (1.1)	
Racially abusive language	1 (1.1)	
Fraud	1 (1.1)	
Theft	1 (1.1)	
Actual bodily harm	1 (1.1)	
Relationship status (at time of offending)		0
Single	26 (28.3)	
Married	48 (52.2)	
Co-habiting	14 (15.2)	
Divorced	3 (3.3)	
Separated	1 (1.1)	
Widowed	0 (N/A)	
Current relationship status		0
Single	28 (30.4)	
Married	40 (43.5)	
Co-habiting	8 (8.7)	
Divorced	7 (7.6)	
Separated	9 (9.8)	
Widowed	0 (N/A)	

Liebowitz Social Anxiety Scale (LSAS; Liebowitz, 1987). Social phobia was assessed using LSAS, a 24 item measure that assesses the degree of fear/anxiety, and avoidance felt in various social and performance situations. Fear/anxiety and avoidance for each item are rated on a four-point Likert scale from *no fear/anxiety* (0) to *severe fear/anxiety* (3). Good test-retest reliability of the LSAS has been demonstrated for the whole score (.83) and the fear/anxiety (.79) and avoidance (.83) subscales (Baker, Heinrichs, Kim, & Hofmann, 2002). The LSAS has also demonstrated acceptable internal validity, with a Cronbach's alpha estimate of .95 for the whole scale, and .91 and .92 for the fear/anxiety, and avoidance subscales, respectively (Baker et al., 2002). Higher scores indicate greater levels of social fear/anxiety, and avoidance. The desired direction of change on this measure was a decrease in levels of social anxiety across the two subscales. Mean scores in a sample of 53 non-anxious controls have been reported as 7.49 ($SD = 7.21$), and 6.0 ($SD = 6.16$), for the fear and avoidance subscales, respectively (Fresco et al., 2001).

Emotion Regulation Questionnaire (ERQ; Gross & John, 2003). The ERQ was used to assess the use of two common strategies for emotion regulation: reappraisal and suppression. While reappraisal involves cognitive change and refers to the ability to construe an emotion eliciting situation or event in a way that changes its emotional impact, expressive suppression refers to the inhibition of emotion expressive behaviour (Gross & John, 2003). Higher scores on each subscale indicate greater use of emotion reappraisal and suppression strategies, respectively. The desired direction of change would see an increase in the use of emotion reappraisal, and a reduction in the use of emotion suppression. The scale is made up of ten items, with six items assessing the use of reappraisal, and the remaining four items used to assess the use of expressive suppression. Each item is rated on a scale from *strongly disagree* (1) to *strongly agree* (7). Gross

and John (2003) showed that alpha reliabilities for internal consistency averaged .79 for Reappraisal, and .73 for Suppression, while test-retest reliability was estimated at .69 for both subscales, over a three month period and across four separate samples. Mean scores in an undergraduate sample of adult males have been reported as 3.64 ($SD = 1.11$) for the suppression subscale, and 4.60 ($SD = 0.94$) for the reappraisal subscale (Gross & John, 2003).

Locus of Control Questionnaire (Nowicki & Duke, 1974). This scale measures the extent to which an individual feels they are in control of their own actions and events in their life. The scale is made up of 40 yes/no items, with a higher score indicative of a more external locus of control, that is, a feeling that events in one's life are outside of one's own control. When working with sexual offenders the aim is to move toward a more internal locus of control (Fisher, Beech, & Browne, 1998). The desired direction of change was therefore to see a reduction in scores on this measure. Internal consistency is reported by Nowicki and Duke (1982) as .69, and Nowicki and Duke (1974) reported the test-retest reliability to be .83 over a 6-week period. The mean score on this scale in a sample of hospital workers was reported as 9.20 by Nowicki and Duke (1974).

University of California Los Angeles (UCLA) Emotional Loneliness Scale (Russel, Peplau, & Cutrona, 1980). This scale assesses the extent to which the responder experiences loneliness in everyday life, as well as the ability to be appropriately intimate with other adults. Responses as to how often the responder feels each statement is true of them are made on a four-point Likert scale, ranging from 1 (*never*) to 4 (*often*). A higher score is indicative of greater feelings of emotional loneliness. The desired direction of change was therefore toward lower scores, indicative of reduced feelings of loneliness. Russel et al. (1980) report a Cronbach's alpha of .91, indicative of high internal reliability. Test-retest reliability is reported by Beech

(1998) as .70 in a sample of 44 treated child molesters over a period of seven months. In a sample of 102 adult male college students Russel et al. (1980) reported a mean value of 37.06 ($SD = 10.91$).

Thornton Short Self Esteem Questionnaire (Webster, Mann, Thornton, & Wakeling, 2007). The short self-esteem questionnaire contains eight *True* or *False* items. Higher scores are indicative of greater levels of self-esteem. As such higher scores were desired following program completion. Webster and colleagues report that the scale has high internal reliability (Cronbach's $\alpha = .84$) and a test-retest reliability of .90 in a sample of 30 sexual offenders (Webster et al., 2007). The mean value in a sample of male prison workers reported by Fisher, Beech, and Browne (1999) was 6.9 ($SD = 1.2$).

New General Self-Efficacy Scale (NGSE; Chen, Gully, & Eden, 2001). This scale measures the trait like belief in one's own capability to perform under given situational demands and pressures. Higher scores indicate a greater level of self-efficacy and so an increase in scores was desired following program completion. The NGSE is an eight-item scale rated on a 5-point Likert scale, from *strongly disagree* (1) to *strongly agree* (5). Chen et al. (2001) established the internal reliability and test-retest reliability of the NGSE as .86 and .67, respectively, with a mean value of 3.87 ($SD = 0.54$), in an undergraduate sample.

Empathy Quotient (EQ; Baron-Cohen & Wheelwright, 2004). The EQ is of use for measuring empathy in adults of normal intelligence and contains 60 items, 40 of which measure empathy with the remaining twenty acting as filler items. All items are rated either 2, 1, or 0, where 2 indicates *strongly agree*, and 1 indicates *slightly agree*; *strongly disagree* and *slightly disagree* responses are scored 0. A Cronbach's alpha internal reliability estimate of .92 has been

established for the EQ (Baron-Cohen & Wheelwright, 2004). However, in later work it was established that the EQ may be used to measure the three factors of empathy using three five item scales: cognitive empathy, emotional reactivity, and social skills empathy (Muncer & Ling, 2006). For the purposes of the current study we will utilize the three factor structure of the EQ, with Cronbach's alpha internal reliability estimates reported by Muncer and Ling (2006) as .74 for the cognitive scale, .63 for the emotional reactivity scale, and .57 for the social skills scale. Higher scores indicate a greater degree of empathic functioning across the three subscales. The desired direction of change would see an increase in these scores. Although alpha was low for the social skills scale, this is nonetheless considered acceptable for a five item scale. Mean values in a sample of undergraduate students are reported by Besel and Yuille (2010) as 4.03 ($SD = 2.02$) for the cognitive scale, 4.60 ($SD = 2.00$) for the emotional reactivity scale, and 3.90 ($SD = 2.13$) for the social skills scale.

Internet Behaviours and Attitudes Questionnaire (IBAQ; O'Brien & Webster, 2007). We used the attitudes section of the IBAQ to assess offense supportive attitudes. This 34 item measure consists of two subscales, namely distorted thinking (16 items), and self-management (18 items), with high scores indicative of more problematic attitudes relating the Internet and indecent images of children. Change was desired in the negative direction following program completion, indicative of less problematic attitudes. Excellent internal consistency has been demonstrated for the 34-item measure (Cronbach's alpha = .93), as well as for the individual subscales (distorted thinking alpha = .92, self-management alpha = .89) by O'Brien and Webster (2007) in a UK sample of convicted online sexual offenders. O'Brien and Webster reported a mean IBAQ value of 120.1 ($SD = 13.9$), with scores ranging from 98 to 149. Although O'Brien and Webster (2007) report that the IBAQ performed well in their sample, the use of this

measure is limited by a lack of norm data on a non-offending population, and only very limited validation data.

Marlowe-Crowne Form C (MC-C; Reynolds, 1982). Socially desirable responding was assessed using the MC-C, a short form version of the original Marlowe-Crowne measure for the assessment of socially desirable responding (Crowne & Marlowe, 1960). The MC-C includes 13 items that the responder rates as *True* or *False* of them. Reynolds (1982) demonstrated acceptable Kuder-Richardson formula 20 internal reliability of .38 for the MC-C, and reported a mean value of 5.67 ($SD = 3.20$) in a large undergraduate sample. Higher scores indicate greater levels of socially desirable responding.

Procedure

The evaluation commenced in April 2013, and ended in March 2014. Participants were informed of the evaluation via letter prior to attending the program. The duration of the program was extended from 10 to 11 sessions in order to accommodate the evaluation psychometric measures, and to ensure that the program content was not reduced. Participants were informed that the evaluation would involve completion of questionnaires at the start and end of the program, and that participation in the evaluation was voluntary and was not a requirement of their attendance on the program.

In session one, participants were provided with further information and asked to sign their informed consent stating that their responses could be used for the purposes of research. Those that agreed to participate were then given the pack of psychometric measures to complete. The course facilitators remained with the participants while the measures were completed in case of any questions or concerns. The measures were administered again at the end of the program

(session 11), along with a demographic form. These were completed in the same place and under the same conditions as at the start of the program.

Follow-up measures were completed by participants during the review group. This session was run between eight to 12 weeks after the program had ended. Participants who were unable to attend the review group were contacted by the LFF via telephone and asked if they would be willing to complete the follow-up measures at home. For those that agreed, the measures were sent to participants via the post, and returned to the LFF in the same way.

Analysis strategy

Change over the course of the program was analysed using a series of MANOVAs. In order to reduce the number of independent tests conducted, pre-post scores on subscales of the same measure were analysed using MANOVA, with each subscale included as a separate measure. Thus, separate analyses including each subscale as a new measure were performed for the DASS-21, the LSAS, the EQ, the ERQ, and the IBAQ. We further reduced the number of independent tests by grouping locus of control, self-esteem, self-efficacy, and emotional loneliness together in to an analysis of social competency based constructs. Again, each scale was included as a separate measure in a pre-post MANOVA. Analyses were repeated for a subset of participants who completed questionnaires at follow-up, using MANOVA to investigate change over the three time points (pre, post, follow-up). Bonferroni adjusted pairwise comparisons were used to investigate differences on each measure at the three time points. Scores on the MC-C do not represent a target of change for users of CSEM, and as such these scores were not statistically compared at pre-post and follow-up. However, these scores offer an

indication of participants levels of socially desirable responding compared with previously reported scores on this measure in a sample of sexual offenders.

Results

First, for descriptive purposes, we report the proportion of the full sample classified into different severity levels relative to the general population for depression, anxiety, and stress, as measured using the DASS-21, at pre and post-program. Severity groupings can be calculated for scores on the DASS-21 by doubling the score to provide an estimate of the original full-scale score across 42 items (Lovibond & Lovibond, 1995). Table 2 shows that across all DASS-21 subscales pre-program, a large proportion of men were classified as severe or extremely severe relative to the general population, with lower numbers meeting criteria for severe or extremely severe post-program.

Next we report the results of analyses of change on each measure from pre to post program for the whole sample. This section is followed by the results for a subset of participants who completed the measures at a follow-up time point. Multivariate effects for analyses of change are reported in text, below. Table 3 shows means and standard deviations for all measures at pre and post, along with statistical detail from univariate ANOVA. Table 4 includes results for a subset of participants at pre, post, and follow-up. Effect sizes for ANOVA are reported as partial-eta squared (η^2), with the following suggested norms for interpretation: small = .01; medium = .06; large = .14 (Cohen, 1988).

Table 2

Number and percentage of participants classified as normal, mild, moderate, severe, and extremely severe for symptom severity on the DASS-21.

Measure (n)	Time (n)	Frequency: n (%)				
		Normal	Mild	Moderate	Severe	Extremely severe
Depression	Pre (91)	8 (8.8)	9 (9.9)	16 (17.6)	17 (18.7)	41 (45.1)
	Post (88)	26 (22.8)	12 (10.6)	22 (19.4)	11 (9.7)	17 (15.0)
Anxiety	Pre (90)	27 (30)	9 (10)	16 (17.8)	12 (13.3)	26 (28.9)
	Post (87)	43 (37.4)	6 (5.2)	15 (13.1)	7 (6.1)	16 (13.9)
Stress	Pre (91)	32 (35.2)	9 (9.9)	24 (26.4)	17 (18.7)	9 (9.9)
	Post (88)	50 (44)	12 (10.6)	10 (8.8)	11 (9.7)	5 (4.4)

Note: Based on DASS-21 scores doubled. Cut-off scores developed for full item version of the Depression, Anxiety, Stress Scale (DASS). Degree of severity is defined relative to the population (Lovibond & Lovibond, 1995).

Pre-post

Clinical characteristics. We found a significant effect of time on scores on the DASS-21, Wilks' Lambda = .81, $F(3, 82) = 6.54$, $p = .001$, $\eta^2 = .19$, with significantly reduced levels of depression, anxiety, and stress following participation in the program (See Table 3). Based on severity cut-off scores for the original DASS (Lovibond & Lovibond, 1995), the mean pre-treatment scores would fall within the severe range of scores for depression, and the moderate range for the anxiety and stress subscales. At post-treatment, mean scores fell within the moderate range for the depression subscale, while scores on the anxiety and stress subscales fell on the lower limits of the moderate and mild range of scores, respectively.

Table 3

Means and standard deviations for scores on all measures at pre and post Inform Plus, with univariate F and p values, and effect sizes reported as partial eta squared ($p\eta^2$).

Scale (n)	Pre Mean (SD)	Post Mean (SD)	F	p	$p\eta^2$
DASS-21 ($n=85$)					
Depression	11.96 (5.6)	8.2 (5.6)	18.24	<.001	.08
Anxiety	7.0 (5.2)	4.9 (4.9)	7.04	.01	.08
Stress	9.9 (4.8)	7.4 (4.9)	11.75	.001	.12
Social anxiety [LSAS] ($n=72$)					
Fear/anxiety	25.2 (14.1)	17.0 (12.6)	11.83	.001	.14
Avoidance	19.4 (14.0)	11.8 (11.3)	11.36	.001	.14
Social competency ($n=62$)					
Locus of control [LC]	13.7 (5.9)	11.3 (5.7)	5.27	.025	.08
Self-esteem [TSSE]	2.9 (2.3)	4.2 (2.7)	10.16	.002	.14
Self-efficacy (NGSE)	27 (5.3)	29.6 (6.2)	5.72	.02	.09
Emotional loneliness [UCLA]	45 (11.0)	41.9 (11.6)	2.79	.10	.04
Emotion regulation [ERQ] ($n=62$)					
Reappraisal	26.3 (7.8)	28.8 (6.1)	4.07	.05	.06
Suppression	16.9 (5.6)	15.5 (5.5)	2.23	.14	.04
Empathy [EQ] ($n=74$)					
Emotional reactivity	5.3 (2.3)	5.7 (2.3)	1.02	.32	.01
Cognitive	4.4 (2.6)	4.2 (2.2)	.07	.79	.001
Social skills	4.6 (2.6)	5.5 (2.7)	4.32	.04	.06
Internet attitudes [IBAQ] ($n=34$)					
Distorted thinking	28.6 (8.9)	20.9 (7.2)	41.37	<.001	.56

Self-management	41.8 (8.9)	36.5 (6.8)	15.32	<.001	.32
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Social anxiety. There was a significant effect of time on social anxiety scores from pre to post, Wilks' lambda = .85, $F(2, 70) = 6.30$, $p = .003$, $\eta^2 = .15$, with significant reductions noted for both social fear/anxiety, and social avoidance (see Table 3).

Social competency. We showed that there was a significant effect of time on social competency scores across all measures, Wilks' lambda = .84, $F(4, 58) = 2.85$, $p = .03$, $\eta^2 = .16$, with significant change in the desired direction for locus of control, self-esteem, and self-efficacy. The effect of time was non-significant for emotional loneliness (See Table 3).. Thus, we showed that over the course of the program participants demonstrated a more internal locus of control, indicative of experiencing more control over the events in one's own life, as well as greater levels of self-esteem and self-efficacy.

Emotion regulation. We showed that there was a significant effect of time on the use of different emotion regulation strategies, Wilks' lambda = 3.65, $F(2, 60) = 3.65$, $p = .03$, $\eta^2 = .11$, with participants reporting greater use of the reappraisal strategy at post program. However, we found that there was no change in the reported use of expressive suppression techniques (see Table 3).. Thus, following program completion participants reported a greater ability to engage in effortful cognitive control over emotional responses in emotion provoking situations.

Empathic functioning. There was a non-significant effect of time on scores on the EQ, Wilks' lambda = .92, $F(3, 71) = 2.07$, $p = .11$, $\eta^2 = .08$. However, an examination of univariate tests showed that social skills empathy was significantly higher post program. The univariate

effect of time was non-significant for both the emotional reactivity, and the cognitive empathy subscales of the EQ (see Table 3).

Offense supportive attitudes. There was a significant effect of time on Internet attitudes Wilks' Lambda = .40, $F(2, 32) = 24.12$, $p < .001$, $\eta^2 = .601$, with a decrease observed for both the distorted thinking, and self-management subscales (see Table 3).

Social desirability. Scores on the MC-C ($n = 86$) at pre ($M = 7.0$, $SD = 2.6$) and post program ($M = 7.8$, $SD = 2.8$) were with-in the range reported by others for a range of forensic samples (Andrews & Meyer, 2003). These scores indicate that participants' levels of socially desirable responding were within the expected range.

The results presented here show that participants improved across several measures of clinical symptoms and social competency from pre to post program. We found benefits across the whole sample on all subscales of the DASS-21, with reductions in depression, anxiety, and stress, as well as change on the LSAS social fear/anxiety and avoidance subscales. Benefits were also observed post program in areas of social competency, including self-esteem, self-efficacy, and locus of control, although we showed no significant improvement in levels of emotional loneliness. Participants also reported more use of reappraisal based techniques for emotion regulation, while scores on the IBAQ showed improvements on both the distorted thinking and self-management subscales. The effect of time was non-significant for measures of empathic functioning. We therefore showed significant improvements across measures of interpersonal and affective functioning, and distorted attitudes, following program completion.

Table 4

Means and standard deviations for scores on all measures at pre and post Inform Plus, and follow-up, with univariate F and p values, and effect sizes reported as partial eta squared ($p\eta^2$).

Scale (n)	Pre Mean (SD)	Post Mean (SD)	Follow-up Mean (SD)	F	p	$p\eta^2$
DASS-21 ($n=34$)						
Depression	12.1 (5.5) ^a	7.5 (4.8) ^{a,b}	6.3 (4.7) ^b	20.56	<.001	.38
Anxiety	6.9 (5.2) ^a	4.0 (4.7) ^b	3.3 (4.0) ^b	11.90	<.001	.27
Stress	9.9 (4.5) ^a	6.5 (4.1) ^b	6.3 (4.5) ^b	11.36	<.001	.26
Social anxiety [LSAS] ($n=34$)						
Fear/anxiety	23.8 (14.2) ^a	17.1 (11.6) ^b	17.1 (11.7) ^b	10.52	<.001	.24
Avoidance	17.1 (14.6) ^a	11.9 (10.7) ^{a,b}	11.1 (11.3) ^b	6.15	.004	.16
Social competency ($n=32$)						
Locus of control [LC]	11.8 (5.3) ^a	10.5 (5.0) ^a	5.2 (3.9) ^b	47.09	<.001	.60
Self-esteem [TSSE]	2.7 (2.0) ^a	4.5 (2.2) ^b	5.4 (2.3) ^c	23.90	<.001	.44
Self-efficacy [NGSE]	26.5 (4.7) ^a	29.6 (4.6) ^b	29.8 (5.4) ^b	10.08	<.001	.25
Emotional loneliness [UCLA]	42.8 (11.5) ^a	39.2 (10.9) ^b	35.3 (9.4) ^c	18.69	<.001	.38
Emotion regulation [ERQ] ($n=24$)						
Reappraisal	27.1 (7.5)	29.3 (5.8)	30.1 (4.8)	1.63	.21	.07
Suppression	19.0 (5.1)	15.6 (6.0)	15.8 (5.2)	4.20	.02	.15
Empathy [EQ] ($n=31$)						
Emotional reactivity	5.4 (2.5)	5.5 (2.4)	5.3 (2.2)	.17	.84	.01
Cognitive	4.1 (2.5)	3.7 (2.1)	4.4 (2.1)	3.39	.04	.10
Social skills	4.5 (2.5)	5.0 (2.7)	5.3 (2.4)	3.22	.05	.10
Internet attitudes [IBAQ] ($n=13$)						

Distorted thinking	26.5 (8.0) ^a	19.2 (3.9) ^b	19.6 (3.6) ^b	13.93	<.001	.54
Self-management	39.9 (6.6) ^a	33.5 (5.6) ^b	34.7 (4.0) ^{a,b}	7.18	.004	.37

Follow-up

In this section we present the results for a subgroup of participants who were assessed at pre and post program, and after a follow-up period of eight to 12 weeks.

Clinical characteristics. At follow-up, we again observed a significant effect of time on DASS-21 scores, Wilks' Lambda = .34, $F(6, 28) = 8.96$, $p < .001$, $\eta^2 = .66$. Bonferroni adjusted pairwise comparisons showed that although depression was not significantly reduced from pre to post, there was a significant reduction at follow-up compared to pre. Furthermore, we found that both anxiety and stress scores decreased significantly between pre and post, and that these reductions remained significant after an eight to 12-week follow-up period, although scores at follow-up were not significantly different to scores at post program (see Table 4).

Social anxiety. At follow up we again showed a significant effect of time on social anxiety, Wilks' Lambda = .66, $F(4, 30) = 3.92$, $p = .01$, $\eta^2 = .34$. Here we showed that there was a significant reduction in levels of social fear/anxiety between pre and post program. Moreover, compared with pre, we showed that social fear/anxiety and social avoidance were both significantly reduced at follow-up. Scores on both scales at follow-up were similar to those at post program, indicating that there was no evidence for further change at follow-up compared to immediately following program completion (see Table 4).

Social competency. There was also a significant effect of time on measures of social competency at follow up, Wilks' Lambda = .11, $F(8, 24) = 24.23$, $p < .001$, $\eta^2 = .89$, with

significant change across all measures in the desired direction (see Table 4). Adjusted pairwise comparisons showed that while there was no significant difference in locus of control between pre and post, self-esteem, self-efficacy, and emotional loneliness all changed in the desired direction. Moreover, all scores had changed in the desired direction at follow-up compared with pre-program. However, while scores for self-efficacy remained stable between post and follow-up, we found increased levels of self-esteem, lower levels of emotional loneliness, and a move toward a more internal locus of control, over the course of the follow-up period compared to post program. These findings indicate that the effects of the program on social competency are still evident after a follow-up period, and that for some aspects of social competency, further change can be witnessed beyond the end of the program.

Emotion regulation. Analyses for the subset of participants at follow-up showed that there was a non-significant effect of time on the use of emotion regulation strategies, Wilks' Lambda = .75, $F(4, 20)$, $p = ns$, $\eta^2 = .25$. However, an examination of univariate analyses showed that there was a significant effect of time for expressive suppression with reductions in the use of this strategy at post program and follow-up (see Table 4).

Empathic functioning. There was a non-significant effect of time on empathy scores at follow-up, Wilks' Lambda = .65, $F(6, 25) = 2.29$, $p = ns$, $\eta^2 = .35$, indicating that any impairments in empathic functioning were resistant to change following program completion (see Table 4). However, univariate tests suggest that there was some degree of change on the cognitive and social skills empathy subscales in the desired direction.

Offense supportive attitudes. We found a significant effect of time on IBAQ scores at pre, post, and follow-up Wilks' Lambda = .27, $F(4, 9) = 6.18$, $p = .01$, $\eta^2 = .73$. Scores on both

the distorted thinking and the self-management attitude subscales were significantly reduced between pre and post program (see Table 4). However, while distorted thinking remained significantly reduced at follow-up compared to pre-program, we found that the reduction in self-management between pre-program and follow-up was non-significant. This finding suggests that gains in self-management that were observed from pre to post were not stable after a follow-up period.

Social desirability. Scores on the MC-C in the subgroup of participants who completed measures at follow-up ($n = 34$) were similar at the three time points assessed: pre ($M = 6.6$, $SD = 2.9$), post ($M = 7.4$, $SD = 2.6$), and follow-up ($M = 7.0$, $SD = 3.2$). These scores are within the range of scores reported by others using this measure with various forensic samples (Andrews & Meyer, 2003). This range of scores indicates that, on average, participants did not display problematic levels of socially desirable responding.

Findings at follow-up were consistent with those for pre-post, and showed significant change in the desired direction across several areas of functioning. We observed change that was statistically significant for all subscales of the DASS-21 and the LSAS, as well as across areas of social competence, namely locus of control, self-esteem, self-efficacy, and emotional loneliness. We also found that levels of distorted attitudes, as measured using the IBAQ, were also reduced after a follow-up period compared with pre-program. However, the overall effect of time on measures of empathic functioning and emotion regulation was not statistically significant.

Discussion

In this paper we evaluated a psycho-educational, community based group-work program for adult male users of CSEM. In particular, we examined whether the program could effectively

target difficulties in affective and interpersonal functioning that have been suggested to play a role in the offense process for users of CSEM. We measured change from pre to post program across measures of mental health symptom severity, social competence, emotion regulation, empathy, and attitudes supportive of online sexual offending. For a subgroup of participants who attended a follow-up review session, we compared scores at three time points. Both sets of analyses show significant change in the desired direction for depression, anxiety, and stress, social competency, and distorted attitudes. These results are among the first to suggest beneficial outcomes following a psycho-educational, community based program specifically targeting users of CSEM.

Based on severity grouping for scores on the DASS-21, we show that a large proportion of men could be categorized as severe or extremely severe for levels of depression, anxiety, and stress relative to the general population. However, it remains unclear whether or not levels of symptom severity observed pre-program reflect trait levels that may have influenced the individuals' offending behavior, or an increase in affective difficulties relating to any ongoing police investigation or criminal proceedings. Nonetheless, these results are consistent with the finding of affective and interpersonal difficulties among a sample of men convicted for online sexual offenses (Laulik et al., 2007), and support a link between depression and unhealthy online sexual behaviors (Putnam & Maheu, 2000). For these individuals, the Internet may serve as a facilitator of social relationships, or a means for emotion regulation (Morahan-Martin & Schumacher, 2000), amplifying positive emotions while alleviating negative emotions (Bergen et al., 2015).

After program completion, participants reported significantly lower scores in depression, anxiety, and stress, and these reductions were stable among a sub-group of participants eight to

12 weeks following program completion. Based on severity ratings compared to the normal population, descriptive statistics suggest that a lower percentage of participants reported severe or extremely severe levels of depression, anxiety, and stress post program, while there was also an increase in the number of participants reporting normal symptomatology at post program. Significant changes in social anxiety were also observed, with participants reporting lower levels of social anxiety following program completion. However, these findings may be limited by a lack of information on the number of participants with a diagnosed emotion regulation disorder (e.g., an anxiety or mood disorder), and the number of men receiving alternative intervention (e.g., psychological, psychopharmacological) at the time of the program.

Participants also reported improvements in social competency, with significant change in the desired direction for measures of self-esteem, self-efficacy, and locus of control. We also found lasting benefits across all measures at follow-up. The results reported here are consistent with other findings from community based treatment programs for online sexual offenders (Middleton et al., 2009). Notably, it has been shown that for men undergoing a sex offender treatment program, those who showed a significant improvement in locus of control were also more likely to show greater treatment success across a variety of other measures of dynamic risk (Fisher et al., 1998). It is therefore a promising finding to show that men attending the Inform Plus program showed a significant move toward a more internal locus of control.

An increase in self-esteem that remained stable at follow-up indicates that participants also experienced more positive feelings relating to the self after program completion. In contrast, losses in self-esteem have been reported over the course of sex offender treatment. For example, Beier and colleagues observed reductions in self-esteem among help seeking pedophiles and hebephiles in an evaluation of a one year sex offender treatment program in Germany (Beier et

al., 2015). Beier et al. suggest that a loss in self-esteem may reflect negative emotional reactions toward the self when asked to confront aspects of one's personality and personal life that may not previously have been confronted (Beier et al., 2015). The findings from the current study suggest that although participants were asked to confront their offending behavior in the company of other group members and program facilitators, this did not lead to more negative affective evaluations of the self. However, our finding may reflect the self-selecting nature of the sample, with participants with higher levels of emotional and self-regulatory function perhaps more likely to self-enroll. It has been suggested that self-esteem may be related to successful adherence to treatment, and a more positive client-therapist relationship (Marshall, Marshall, & Serran, 2006; McGrath, Georgia, Burchard, Zeoli, & Ellerby, 2010). Thus, although self-esteem deficits are unrelated to sexual offense recidivism (Hanson & Morton-Bourgon, 2005), self-esteem may represent a receptivity factor, and addressing these deficits may help the offender to benefit from treatment.

We also observed significant change in the desired direction on both the distorted attitudes and the self-management subscales of the IBAQ. Although findings from meta-analyses suggest that online only offenders do not show problems in the domain of offense supportive attitudes, these findings may reflect problems in the use of measures designed for contact sexual offenders (O'Brien and Webster, 2007). In this study we found that the offense supportive attitudes of online offenders may be amenable to treatment. Although lasting change was observed for the distorted attitudes scale at follow-up, attitudes relating to the Internet as a means for self-management were more resistant to long term change, with no benefits observed at follow-up compared to pre-program. Consistent with the pre-post findings observed here,

reductions in pro-offending attitudes among online offenders have also been found by Beier et al. (2015), and Middleton et al. (2009).

It has been argued elsewhere that sexual offenders may not show pronounced problems in empathizing with their own victims. For example, Mann and Barnett (2013) review the evidence that sexual offenders do not show victim empathy deficits, and that a lack of victim empathy does not significantly predict sexual offense recidivism, as shown by Hanson and Morton-Bourgon (2005). Consistent with this, Middleton et al. (2009) found that pre-treatment scores on a victim empathy measure among online offenders fell within the normative range of functioning for that measure. Although victim specific empathy was not measured in the present study, we observed no change from pre to post program in general empathic functioning across cognitive, emotional, and social skills empathy. However, it was noted that scores on these measures fell within the range of scores reported by others for adult non-offenders (Besel & Yuille, 2010; Henry, Bailey, & Rendell, 2008). Thus, our results suggest that general empathic functioning may not represent an essential treatment target for interventions with online offenders.

A measure of socially desirable responding was also included to assess participants' tendency to respond in a socially desirable manner. Similar scores on the MC-C were recorded at the various time points assessed and were within the range of scores reported by Andrews and Meyer (2003) for various forensic samples (average scores ranged between 6.9 and 9.2). Scores on the MC-C observed here suggest that on average, participants did not show excessive levels of socially desirable responding. However, these scores were above those reported in other studies with non-offenders (scores range between 4.0 and 6.3) (see Andrews & Meyer, 2003).

The results reported here for affective and interpersonal functioning are consistent with the findings of other similar evaluations of community based programs such as the UK i-SOTP (Middleton et al., 2009) and the German Prevention Project Dunkelfeld (PPD) (Beier et al., 2015). However, the Inform Plus and PPD programs differ in that participants in the PPD were undetected help seeking pedophiles and hebephiles, where as participants in the present study were under investigation by the police. Although these represent important differences between the two programs, both studies report significant benefits across a range of measures.

Although the findings of the present study are limited to proximal measures, and impact on recidivism was not examined, the use of proximal measures is nonetheless considered valuable (Jung & Gulayets, 2011). These measures provide a means of measuring personal change on variables that are targeted by the program, and increase understanding of those treatment approaches that are most effective in working with sexual offenders (Jung & Gulayets, 2011). Establishing the effectiveness of interventions for online offenders on the basis of official recidivism rates is complicated by low base rates of reoffending among this type offender, meaning that very large sample sizes would be required over a long follow-up period. It should also be noted that the extent to which change on proximal measures relates to more distal outcome measures remains relatively poorly understood, although these relationship may improve after controlling for pre-treatment scores (Olver, Kingston, Nicholaichuk, & Wong, 2014).

Other advantages of using proximal measures, as noted by Jung and Gulayets (2011), include the ability to understand if change is not only statistically significant, but also clinically significant. Clinically significant change refers to change in the preferred direction that brings the treated individual in to a targeted range of functioning on a given measure (Jacobson,

Follette, & Revenstorf, 1984). It has been shown that while group based analyses may reveal significant change across most measures, these results may not mean that targeted levels of functioning were reached post treatment. Future research should seek to measure both statistically significant and clinically significant change for CSEM users attending community based interventions. The use of such measures would provide a more detailed account of treatment effectiveness and an indicator of progress at the individual-level (Nunes et al., 2011).

Limitations

The findings reported here are limited by the absence of a community control group at a similar stage of police investigation or criminal proceedings. The absence of a control group means that it is unclear whether the effects observed here reflect change brought about by the particular program, or more naturally occurring change over time. Participants' situations often continue to change over the course of the program, and further difficulties are encountered in relation to the imminence of bail dates, returning to be re-interviewed by the police, and/or charged with an offense. Affective difficulties may also be exaggerated by the reality of court appearances, fear of media coverage, and wider disclosure. Thus, these difficulties may not be expected to improve naturally during that time period. Nonetheless, a suitable control group would allow one to make stronger inferences about the effects of similar psycho-educative programs on relevant outcome measures.

Other problems relate to the absence of other outcome measures besides self-reports. However, the effectiveness of measures including re-offense rates may be impacted by low levels of recidivism among online offenders. This would limit the extent to which robust conclusions could be drawn from such studies. Other difficulties relate to the voluntary attendance and self-funded nature of the Inform Plus program. Although participants have been

detected, they represent an apparently highly motivated, help seeking group of individuals. Whether or not similar programs would be equally beneficial for non-help seeking men remains unknown.

Conclusions

The findings of the present study hold promise for the treatment of online sexual offenders in the community. Our results suggest that community based psycho-educational group-work programs can effectively target difficulties in affective and interpersonal functioning that have been suggested to play a role in the offense process for users of CSEM. Furthermore, the findings suggest that, like the help seeking undetected sample of Beier et al. (2015), detected online offenders residing in the community may be amenable to treatment outside of those programs offered by the criminal justice system. These results suggest that such programs are worthy of future long term follow-up research and investment.

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